K A N S A S

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Botulism Q&A

What is botulism?

Botulism is a rare but serious paralytic illness caused by a nerve toxin that is produced by the bacterium *Clostridium botulinum*. There are three main kinds of botulism. Eating foods that contain the botulism toxin causes foodborne botulism. Wound botulism is caused by toxin produced from a wound infected with *Clostridium botulinum*. Consuming the spores of the botulinum bacteria, which then grow in the intestines and release toxin, causes infant botulism. All forms of botulism can be fatal and are considered medical emergencies. Foodborne botulism can be especially dangerous because eating a contaminated food can poison many people.

How common is botulism?

An average of 110 cases of botulism are reported in the United States each year. Of these, approximately 25% are foodborne, 72% are infant botulism, and the rest are wound botulism. Outbreaks of foodborne botulism involving two or more persons occur most years and are usually caused by eating contaminated home-canned foods. The number of cases of foodborne and infant botulism has changed little in recent years, but wound botulism has increased because of the use of illegal narcotics that are injected with unclean needles.

How is botulism spread?

Botulism is usually spread through contaminated foods, but can sometimes infect open wounds on the skin. Botulism does not become airborne and cannot normally be spread directly from person-to-person. However, someone who has botulism can pass it on to others if they unsafely prepare food that is then consumed by other people. Persons who touch another person's infected wound or wound dressing may place themselves at risk for becoming infected with botulism.

What are the symptoms of botulism?

The classic symptoms of botulism include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, and muscle weakness. Infants with botulism appear lethargic, feed poorly, are constipated, and have a weak cry and poor muscle tone. These are all symptoms of the muscle paralysis caused by the bacterial toxin. If untreated, these symptoms may progress to cause paralysis of the arms, legs, trunk and respiratory muscles. In foodborne botulism, symptoms generally begin 18 to 36 hours after eating a contaminated food, but they can occur as early as 6 hours or as late as 10 days.

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How is botulism diagnosed?

Physicians may consider the diagnosis of botulism if the patient's history and physical examination suggest botulism. However, these clues are usually not enough to allow a diagnosis of botulism. Other diseases such as Guillain-Barré syndrome, stroke, and myasthenia gravis can appear similar to botulism, and special tests may be needed to exclude these other conditions.

How can botulism be treated?

The respiratory failure and paralysis that occur with severe botulism may require a patient to be on a breathing machine for weeks, plus intensive medical and nursing care. After several weeks, the paralysis slowly improves. If diagnosed early, foodborne and wound botulism can be treated with an antitoxin. This can prevent patients from worsening, but recovery still takes many weeks.

Physicians may try to remove contaminated food still in the gut by inducing vomiting or by using enemas. Wounds should be treated, usually surgically, to remove the source of the toxin-producing bacteria. Good supportive care in a hospital is the mainstay of therapy for all forms of botulism. Currently, antitoxin is not routinely given for treatment of infant botulism.

Are there complications from botulism?

Botulism can result in death due to respiratory failure. However, in the past 50 years the proportion of patients with botulism who die has fallen from about 50% to 8%. A patient with severe botulism may require a breathing machine as well as intensive medical and nursing care for several months. Patients who survive an episode of botulism poisoning may have fatigue and shortness of breath for years and long-term therapy may be needed to aid recovery.

How can botulism be prevented?

Persons who do home canning should follow strict hygienic procedures to reduce contamination of foods. Oils infused with garlic or herbs should be refrigerated. Potatoes that have been baked while wrapped in aluminum foil should be kept hot until served or refrigerated. Instructions on safe home canning can be obtained from county extension services or from the U.S. Department of Agriculture.

High temperatures destroy the botulism toxin; therefore, persons who eat home-canned foods should consider boiling the food for 10 minutes before eating it to ensure safety. Because honey can contain spores of *Clostridium botulinum*, infants and children less than 12 months old should not be fed honey.

Wound botulism can be prevented by promptly seeking medical care for infected wounds and by not using injectable street drugs.

What are public health agencies doing to prevent or control botulism?

Public education about botulism prevention is an ongoing activity. Information about safe canning is widely available for consumers. Suspected outbreaks of botulism are quickly investigated, and if they involve a commercial product, the appropriate control measures are coordinated among commercial vendor, public health and regulatory agencies. Physicians should report suspected cases of botulism to the Kansas Department of Health and Environment.